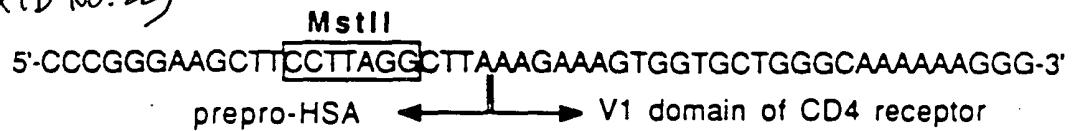


Pl I

OLIGODEOXYNUCLEOTIDE Xo126

(SEQ ID NO: 22)



OLIGODEOXYNUCLEOTIDE Xo127

(SEQ ID NO. 23)

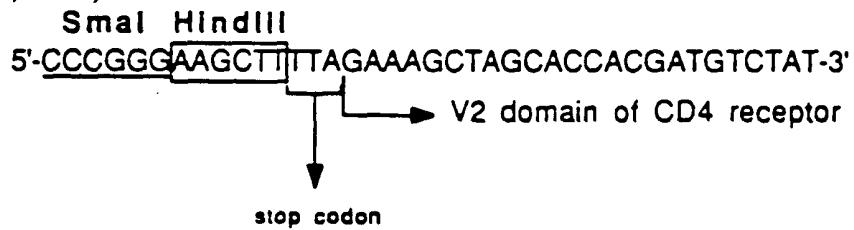


Figure 1

(SEQ ID NO. 24)

MstII

CCTTAGGCTTAAAGAAAAGTGGTGTGGCAAAAAAGGGATACTGGAACTGACCTGTACAGCTCCAGAAGA
 01 11 21 31 41 51 61 71

 AGAGCATACAATTCCACTGGAAAAACTCCAACCAGATAAGATTCTGGAAATCAGGGCTCCCTTAACCTAAAG
 76 86 96 106 116 126 136 146

 GTCCATCCAAGCTGAATGATCGCGCTGACTCAAGAAGAACGCCTGGGACCAAGGAAACTCCCCCTGATCATCA
 151 161 171 181 191 201 211 221

 AGAATCTTAAGATAGAAGACTCAGATACTTACATCTGTGAAGTGGAGGACCAGAAGGAGGGTGCATTGCTAG
 226 236 246 256 266 276 286 296

 TGTTGGATTGACTGCCAACTCTGACACCCACCTGCTTCAGGGGAGAGCCTGACCTTGAGAGCCCCC
 301 311 321 331 341 351 361 371

 CTGGTAGTAGCCCCCTCAGTCAAATGTAGGAGTCCAAGGGTAAAAACATACAGGGGGGAGACCCCTCTCCGTGT
 376 386 396 406 416 426 436 446

 CTCAGCTGGAGCTCCAGGATACTGGCACCTGGACATGCACGTGCTTGCAAGAACAGAAGAAGGTGGAGTTCAAAA
 451 461 471 481 491 501 511 521

HindIII SmaI
 TAGACATCGTGGTGCTAGCTTCTAAAGCTTCCCCGG
 526 536 546 556

Figure 2

(SEQ ID No. 26)
(SEQ ID No. 25)

MetLysTrpValThrPheIleSerLeuLeuPheLeuPheSerSerAlaTyrSerArgGlyValPheArg
AAGCTTATGAAGTGGTAACCTTATTCCCTCTTAGCTCGGTTATTCAAGGGTGTTCTGCTGCTGCTG
1 11 21 31 41 51 61 71

ArgAspAlaHisLysSerGluValAlaHisArgPheLysAspLeuGlyGluGluAsnPheLysAlaLeuValLeu
CGAGATGCACACAAGAGTGAGGTTGCTCATCGGTTAAAGATTTGGAGAAGAAAATTCAAAGCCTGGTGTG
76 86 96 106 116 126 136 146

IleAlaPheAlaGlnTyrLeuGlnGlnCysProPheGluAspHisValLysLeuValAsnGluValThrGluPhe
ATTGCCTTGCTCAGTATCTTCAGCAGTGTCCATTGAAGATCATGTAAAATTAGTGAATGAAGTAAGTGAATT
151 161 171 181 191 201 211 221

AlaLysThrCysValAlaAspGluSerAlaGluAsnCysAspLysSerLeuHisThrLeuPheGlyAspLysLeu
GCAAAACATGTGGCTGATGAGTCAGCTGAAAATTGTGACAAATCACTTCATAACCCCTTTGGAGAACAAATTA
226 236 246 256 266 276 286 296

CysThrValAlaThrLeuArgGluThrTyrGlyGluMetAlaAspCysCysAlaLysGlnGluProGluArgAsn
TGCACAGTTGCAACTCTTCGTGAAACCTATGGTGAATGGCTGACTGCTGTGCAAAACAAAGAACCTGAGAGAAAAT
301 311 321 331 341 351 361 371

GluCysPheLeuGlnHisLysAspAspAsnProAsnLeuProArgLeuValArgProGluValAspValMetCys
GAATGCTTCTTGCAACACAAAGATGACAACCCAAACCTCCCCGATTGGTGAGACCAGAGGTTGATGTGATGTG
376 386 396 406 416 426 436 446

ThrAlaPheHisAspAsnGluGluThrPheLeuLysTyrLeuTyrGluIleAlaArgArgHisProTyrPhe
ACTGCTTTCATGACAATGAAGAGACATTGAAAAAAACTTATATGAAATTGCCAGAACATCCTTACTTT
451 461 471 481 491 501 511 521

TyrAlaProGluLeuLeuPhePheAlaLysArgTyrLysAlaAlaPheThrGluCysCysGlnAlaAlaAspLys
TATGCCCGGAACTCCTTCTTGCTAAAGGTATAAGCTGCTTTACAGAAIGTTGCCAGCTGCTGATAAAA
526 536 546 556 566 576 586 596

AlaAlaCysLeuLeuProLysLeuAspGluLeuArgAspGluGlyLysAlaSerSerAlaLysGlnArgLeuLys
GCTGCCTGCCTGTTGCCAAAGCTCGATGAACITCGGGATGAAGGGAAAGGCTTCGTCTGCCAACAGAGACTCAAG
601 611 621 631 641 651 661 671

CysAlaSerLeuGlnLysPheGlyGluArgAlaPheLysAlaTrpAlaValAlaArgLeuSerGlnArgPhePro
TGTGCCAGTCTCCAAAATTGGAGAAAGAGCTTCAAAGCATGGCAGTAGCTCGCCTGAGCCAGAGATTCCC
676 686 696 706 716 726 736 746

LysAlaGluPheAlaGluValSerLysLeuValThrAspLeuThrLysValHisThrGluCysCysHisGlyAsp
AAAGCTGAGTTGCAGAACGTTCCAAGTTAGTGAACAGATCTTACCAAAGCTCACCGGAATGCTGCCATGGAGAT
751 761 771 781 791 801 811 821

LeuLeuGluCysAlaAspAspArgAlaAspLeuAlaLysTyrIleCysGluAsnGlnAspSerIleSerSerLys
CTGCTTGAAATGTGCTGATGACAGGGCGGACCTTGCCAAGTATATCTGTGAAATCAAGATTGATCTCCAGTAAA
826 836 846 856 866 876 886 896

LeuLysGluCysCysGluLysProLeuLeuGluLysSerHisCysIleAlaGluValGluAsnAspGluMetPro
CTGAAGGAATGCTGTGAAAAACCTCTGTTGGAAAATCCCCTGCAATTGCCAGTGGAAAATGATGAGATGCCT
901 911 921 931 941 951 961 971

AlaAspLeuProSerLeuAlaAlaAspPheValGluSerLysAspValCysLysAsnTyrAlaGluAlaLysAsp
GCTGACTTGCCTTCATTAGCTGATTTGTTGAAAGTAAGGATGTTGCCAAAACATGCTGAGGCCAAAGGAT
976 986 996 1006 1016 1026 1036 1046

Figure 8A

ValPheLeuGlyMetPheLeuTyrGluTyrAlaArgArgHisProAspTyrSerValValLeuLeuLeuArgLeu
 GTCTTCCTGGGCATGTTTGATGAATATGCAAGAAGGCATCCTGATTACTCTGTGCGTACTGCTGCTGAGACTT
 1051 1061 1071 1081 1091 1101 1111 1121

AlaLysThrTyrGluThrThrLeuGluLysCysCysAlaAlaAlaAspProHisGluCysTyrAlaLysValPhe
 GCCAAGACATATGAAACCCTCTAGAGAAGTGCTGCGCTGCAGATCCTCATGAATGCTATGCCAAAGTGTTG
 1126 1136 1146 1156 1166 1176 1186 1196

AspGluPheLysProLeuValGluGluProGlnAsnLeuIleLysGlnAsnCysGluLeuPheGluGlnLeuGly
 GATGAATTTAACCTCTTGAGAAGAGCCTCAGAATTAAACAAAATTGTGAGCTTTGAGCAGCTTGG
 1201 1211 1221 1231 1241 1251 1261 1271

GluTyrLysPheGlnAsnAlaLeuLeuValArgTyrThrLysValProGlnValSerThrProThrLeuVal
 GAGTACAAATTCCAGAATGCGCTTACACCAAGAAAGTACCCCAAGTGTCAACTCCAACCTTGTGTA
 1276 1286 1296 1306 1316 1326 1336 1346

GluValSerArgAsnLeuGlyLysValGlySerLysCysCysLysHisProGluAlaLysArgMetProCysAla
 GAGGTCTCAAGAAACCTAGGAAAGTGGGCAGCAAATGTTGTAACATCCTGAAGCAAAAGAATGCCCTGTGCA
 1351 1361 1371 1381 1391 1401 1411 1421

GluAspTyrLeuSerValValLeuAsnGlnLeuCysValLeuHisGluLysThrProValSerAspArgValThr
 GAAGACTATCTATCCGTGGTCTGAAACCAGTTATGTGTTGATGAGAAACGCCAGTAAGTGACAGAGTCACC
 1426 1436 1446 1456 1466 1476 1486 1496

LysCysCysThrGluSerLeuValAsnArgArgProCysPheSerAlaLeuGluValAspGluThrTyrValPro
 AAATGCTGCACAGAACATCCTGGTGAACAGGGCACCATGCTTCTGAAAGTCGATGAAACATACTGGTCCC
 1501 1511 1521 1531 1541 1551 1561 1571

LysGluPheAsnAlaGluThrPheThrPheHisAlaAspIleCysThrLeuSerGluLysGluArgGlnIleLys
 AAAGAGTTAACATTGCTGAAACATTCCACCTCCATGCAGATATATGCACACTTCTGAGAAGGGAGACAAATCAAG
 1576 1586 1596 1606 1616 1626 1636 1646

LysGlnThrAlaLeuValGluLeuValLysHisLysProLysAlaThrLysGluGlnLeuLysAlaValMetAsp
 AAACAAACTGCACTTGTGAGCTTGTGAAACACAAGCCCAAGGCAACAAAAGAGCAACTGAAAGCTGTTATGGAT
 1651 1661 1671 1681 1691 1701 1711 1721

AspPheAlaAlaPheValGluLysCysCysLysAlaAspAspLysGluThrCysPheAlaGluGluGlyLysLys
 GATTCGCAGCTTGTAGAGAAGTGCTGCAAGGCTGACGATAAGGAGACCTGCTTGGCAGGGAGGGTAAAAAAA
 1726 1736 1746 1756 1766 1776 1786 1796

LeuValAlaAlaSerGlnAlaAlaLeuGlyLeuLysLysValValLeuGlyLysLysGlyAspThrValGluLeu
 CTTGTTGCTGCAAGCTGCTTAAAGAAAGTGGCTGGCAAAAAAGGGATACAGTGGAACTG
 1801 1811 1821 1831 1841 1851 1861 1871

ThrCysThrAlaSerGlnLysLysSerIleGlnPheHisTrpLysAsnSerAsnGlnIleLysIleLeuGlyAsn
 ACCTGTACAGCTTCCCAGAACAGAGCATACAATTCCACTGGAAAAACTCCAACCAGATAAAGATTCTGGAAAT
 1876 1886 1896 1906 1916 1926 1936 1946

GlnGlySerPheLeuThrLysGlyProSerLysLeuAsnAspArgAlaAspSerArgArgSerLeuTrpAspGln
 CAGGGCTCCTTAACTAAAGGTCCATCCAAGCTGAATGATCGCGCTGACTCAAGAAGAACCTTGGGACCAA
 1951 1961 1971 1981 1991 2001 2011 2021

GlyAsnPheProLeuIleIleLysAsnLeuLysIleGluAspSerAspThrTyrIleCysGluValGluAspGln
 GGAAACTTCCCCCTGATCATCAAGAACATCTTAAAGATAGAAGACTCAGATACTTACATCTGTGAAGTGGAGGACCA
 2026 2036 2046 2056 2066 2076 2086 2096

LysGluGluValGlnLeuLeuValPheGlyLeuThrAlaAsnSerAspThrHisLeuLeuGlnGlnSerLeu
 AAGGAGGAGGTGCAATTGCTAGTGTGCGATTGACTGCCACTCTGACACCCACCTGCTTCAGGGCAGAGCCTG
 2101 2111 2121 2131 2141 2151 2161 2171

Figure 8B

Pl. X

ThrLeuThrLeuGluSerProProGlySerSerProSerValGlnCysArgSerProArgGlyLysAsnIleGln
ACCTGACCTTGGAGAGCCCCCTGGTAGTAGCCCTCAGTGCAATGTAGGAGTCCAAGGGTAAAAACATACAG
2176 2186 2196 2206 2216 2226 2236 2246

GlyGlyLysThrLeuSerValSerGlnLeuGluLeuGlnAspSerGlyThrTrpThrCysThrValLeuGlnAsn
GGGGGGAAAGACCCCTCCGTGTCTCAGCTGGAGCTCCAGGATAGTGGCACCTGGACATGCACGTGCTTGCAGAAC
2251 2261 2271 2281 2291 2301 2311 2321

GlnLysLysValGluPheLysIleAspIleValValLeuAlaPhe***
CAGAAGAAGGTGGAGTTCAAAATAGACATCGTGGTAGCTTCTAAAGCTT
2326 2336 2346 2356 2366 2376

Figure 8C

(SEQ ID No. 28)
 (SEQ ID No. 27)

R S L E R I A R L E E K V K T
 5' AGATCTTTGGAAAGAATTGCCGTCTGGAAGAAAAAGTGAAGAAACT
BglII

(L) K A Q N S E (L) A S T A N M (L)
 CTGAAAGCCCAGAACTCTGAGCTCGCATCCACGCCAACATGCTG

R E Q V A Q (L) K Q L V G D A
 CGTGAACACGGTTGCACAGCTGAAGCAACTGGTGGCGACGCC 3'
AhaII



Figure 34

[REDACTED]	HSA (585)
a [REDACTED]	YP39 (579)
[REDACTED]	YP60 (578)
[REDACTED]	YP61 (577)
[REDACTED]	YP76 (568)
[REDACTED]	YP82 (505)
[REDACTED]	YP63 (495)
[REDACTED]	YP27 (478)
[REDACTED]	YP65 (459)
[REDACTED]	YP78 (430)
[REDACTED]	YP92 (404)
[REDACTED]	YP40 (379)
[REDACTED]	YP88 (351)
[REDACTED]	YP90 (303)
[REDACTED]	YP70 (292)
[REDACTED]	YP62 (272)
[REDACTED]	YP74 (254)
[REDACTED]	YP51 (233)
[REDACTED]	YP86 (201)

(SEQ ID NO. 30)

b Cys Phe Ser Ala Leu Glu Val Asp [Glu] Thr Tyr Val =====

5' TGC TTT TCA GCT CTG GAA GTC GAT GAA ACA TAC GTT ===== -3'
(SEQ ID NO. 29)

BAL31 DELETION (YP63)

(SEQ ID NO. 32)

Cys Phe Ser Ala Leu Glu Val Asp Ala Leu Gly =====

5' ===== TCA GCT CTG GAA GTC GAT CCC TTA GCx ===== -3'

(SEQ ID NO. 31)

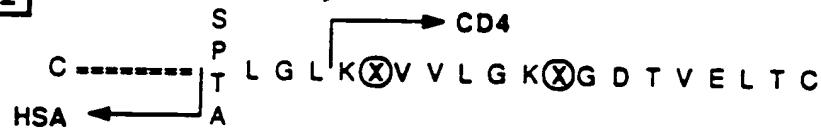
HSA ← Met

Figure 36

[1] (SEQ ID No. 33)



[2] (SEQ ID No. 34)



[3] (SEQ ID No. 35)



[4]

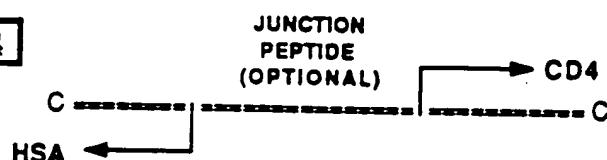


Figure 37

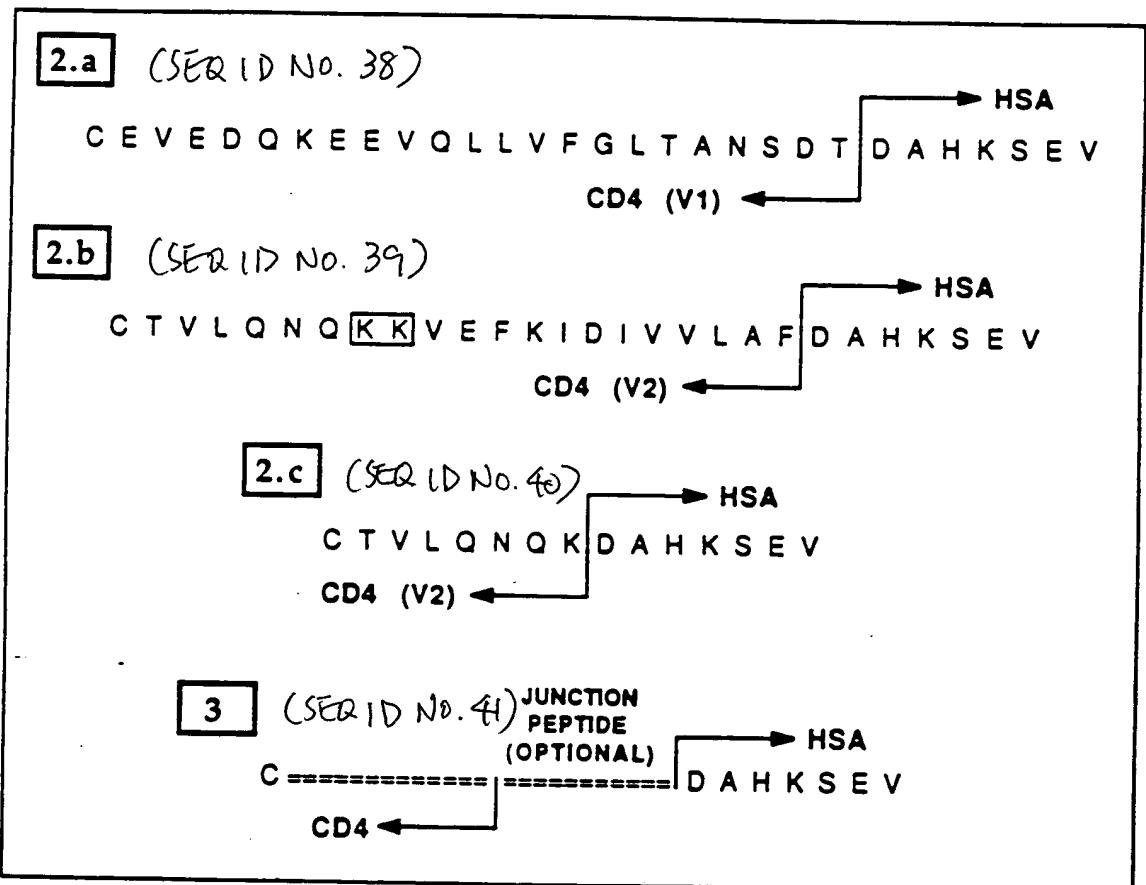
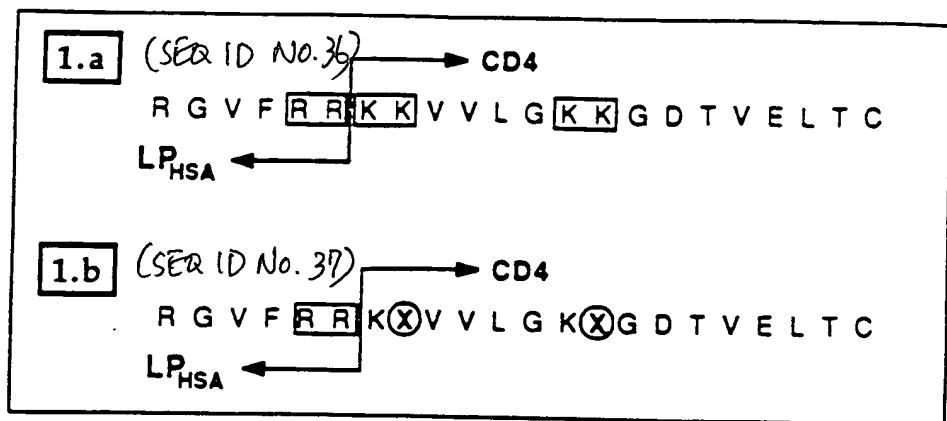


Figure 38